Hayward (Geo.)

REPORT

OF THE

SURGICAL CASES AND OPERATIONS

THAT OCCURRED IN

The Massachusetts General Hospital,

FROM MAY 12, 1837, TO MAY 12, 1838.

BY GEORGE HAYWARD, M.D.
SURGEON TO THE HOSPITAL.

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BOSTON:
D. CLAPP, JR.—184 WASHINGTON STREET.
1838.

Reel: 74-42-7

REPORT.

In consequence of the absence in Europe of my respected friend and colleague, John C. Warren, M.D., the surgical department of the Massachusetts General Hospital has been under my exclusive care during the past year. The number of patients and operations has not varied materially from that of former years, nor has there been any essential difference in the character of the diseases that have come under treatment.

A report, therefore, of all the cases, will enable any one, who will give himself the trouble to examine it, to form a tolerably just notion of the kind of diseases that are usually met with in the surgical department of this institution.

It may, perhaps, be well to observe, that the hospital cannot conveniently accommodate more than sixty patients. The average number is a little more than fifty; about half of these are medical, and the rest surgical. There are from twenty to thirty free patients; the others pay various prices, according to the apartments they occupy, the lowest sum being three dollars a week.

The number of operations is large, in proportion to the number of patients; as many persons resort to the hospital, from various parts of New England, for the purpose of undergoing operations.

When I entered on my duties at the hospital, May 12th, 1837, there were 27 surgical patients in the house, and 195 were admitted during the year, making a total of 222. Of these, there were

Discharged as well	86
Much relieved	40
Relieved	38
Not relieved	22
Died	13
Unfit	3
Eloped	1
Transferred to the Physician	2
Remaining in the house May 12th, 1838	17
	222

Of the thirteen deaths, it should be observed that ten of them were the result of violent injury; six of the patients died within twenty-four

hours of the accident, and the other four lingered from five to eighteen days. Of the three other fatal cases, one was from an affection of the lungs. The patient had undergone an operation for the removal of the breast, by Dr. Warren, in April. The wound, however, had entirely healed. Another died of fungus hæmatodes within the abdomen; and the other of phthisis, having been admitted on account of scrofulous ulcers in the neck.

It may well be doubted whether it is proper to swell the bill of mortality of the hospital, by including in it those who die almost immediately upon admission. They have not at any time been patients of the house, as they are altogether beyond the reach of art when they enter. Of the six of whom I spoke above as dying within twenty-four hours, scarcely one of them was able to swallow after his entrance. By including them among the patients who have died at the hospital, it gives an exaggerated notion of the mortality that occurs there.

The following table shows the diseases and injuries with which the patients were afflicted, who were in the surgical department of the hospital during the last year. It will probably be perceived by this, that the number of cases exceeded, somewhat, the number of patients. This is to be accounted for, in part, by the fact that a few out-patients are included in the table; but more from the circumstance that some persons, who were admitted on account of one disease, became affected with another while in the hospital. This was the case with the eight individuals who had erysipelas, and the two who had eczema. The difference, however, is not important, as there were only sixteen more cases than there were patients, and ten of these were of the two diseases just named.

List of Surgical Cases under treatment during the year commencing May 12, 1837, and ending May 12, 1838.

Case	No.	Case	No.
Abscess	7	Deformity from accident	1
" lumbar	2	" " rheumatism	1
Ankle, scrofulous disease of	3	Dislocations of shoulder	1
Ascites	1	" ankle	2
Burn	2	Eczema	2
Cancer of breast	7	Erysipelas	8
" face	1	Fissure of palate	1
" mouth	1	" rectum	1
" tongue	2	Fistula in ano	5
Cataract	1	" of urethra	2
Contusion	4	Fractures of cranium	2
" of hip-joint	2	" lower jaw, simple	2
Calculus, biliary, with fistulous opening near umbilicus	1	" " compound	4
		" clavicle	1
Conjunctivitis, purulent	1	" spine	2

Fractures of humerus - -	2
" olecranon -	1
" ulna - - -	1
" hand, compound and comminuted -	1
" ribs - - -	3
" thigh - -	6
" patella - - -	1
" leg, simple -	10
" " comp. and com.	7
" both legs, comp. and comminuted	1
" toes, comp. and com.	1
Fungus hæmatodes of antrum	1
" " on abdomen	1
" " of breast	1
" " muscles in pelvis	1
Gonorrhœa - - - -	2
Gryposis, or inverted toe nail	1
Hare-lip - - - -	1
Hemiplegia - - - -	1
Hemorrhoids, internal and external	3
Hip disease - - -	6
Hydrocele - - - -	1
Hernia, femoral - - -	1
Inflammation, local - - -	4
" of periosteum	1
" muc. membrane of bladder	1
" hernial sac	3
" do. (sloughing)	1
Injury, general, from accident	3
" " " gunpowder	2
" " " frost	1
Iritis, idiopathic - - -	1
" syphilitic - - -	3
" chronic - - -	1
Irritable breasts - - -	1
Knee joint, disease of - -	8
Mercurial sore mouth - -	1

Necrosis of cranium, with epilepsy	1
" elbow-joint -	1
Nævus maternus - - -	1
Neuralgia - - - - -	3
Opacity of cornea - - -	1
Paraplegia from injury -	1
" following dysentery	1
Paronychia - - - -	1
Polypus of the nose - -	1
Prolapsus ani - - - -	2
Prostate gland, disease of -	2
Retina, morbid sensibility of -	1
Scrofula of nose - - -	1
" lip - - -	2
" glands in neck -	3
" " groin -	2
" joints - -	1
Shoulder, disease of - -	1
Sprain of wrist - - -	1
Submaxillary gland, enlarged -	1
Spine, disease of - - -	1
Syphilis - - - - -	4
Testicle, swelled - - -	4
" medullary sarcoma of	1
Tinea ciliaris - - - -	2
Tumors, various kinds - -	4
" ovarian - - -	1
" hydatid of breast -	1
" chronic mammary -	2
" encysted over patella	1
" blue, of sclerotica -	1
Ulcers, various - - -	9
" scrofulous - -	3
" varicose, with varicose veins	4
" of throat - - -	1
" of the cornea - -	1
Varicose veins - - -	1
Wounds, lacerated - -	3
" contused - - -	6
" punctured - -	3
Wrist, inflammation of - -	1

On some of these cases I shall offer a few remarks.

Erysipelas.—Only eight cases of this disease occurred in the surgical department of the hospital during the year, and all of them terminated favorably. There has probably not been another year within the last twelve, in which there has not been a death in the hospital from erysipelas. It has been, and still continues to be, a great annoyance. It frequently attacks patients after surgical operations, and those who have suffered from accident, and very often assumes a malignant form.

We are left to conjecture as to its cause. It cannot be from want of cleanliness, for our institution may safely challenge a comparison, in this respect, with any other of the same kind, either in Europe or this country.

It seems, however, to be certain, that the exhalations from the bodies of sick persons, when a number are confined in the same apartment, are capable of producing an atmosphere that will generate the disease, without changing, in the slightest degree, the sensible qualities of the air. I have been led to believe, by observation to some extent on the subject, that this atmosphere was much more readily produced by those patients who had large suppurating surfaces, than by others, who were not affected in this way.

Admitting this to be true, and of its truth I think there can be no doubt, the obvious dictate of common sense is to change the air in the wards of the hospital as often as possible, so as to substitute pure air for that which has been contaminated. This is not so easily effected as at first it might seem to be. It is difficult to do it in the spring and autumn, when the weather is sufficiently mild to enable us to dispense with fires, but at the same time so cool as to require the windows to be closed at night. It is also difficult in winter, without the consumption of a large quantity of fuel, and probably the best ventilator is an old-fashioned open fire-place, but every one knows that it is not the most economical mode of warming a room. There can hardly be a doubt that erysipelas is much more common in those hospitals that are warmed by furnaces, than in those that are not. The fire is usually allowed to go down at night, the ventilator is frequently closed to keep the apartment agreeably warm, and consequently the patients must inhale for several hours the foul air.

This may not be true in all institutions that are warmed in this way; but it certainly was in the Massachusetts General Hospital. A change in this respect was made the last autumn; the ventilators are now so arranged that they cannot be closed by the patients or nurses; and to render the ventilation more perfect, the upper panels of the doors of each ward, communicating with the entries which are not warmed by artificial heat, were removed, and the holes, thus made, kept open during the winter. Not a death from erysipelas has occurred in the hospital since this change has been made, nor has the disease, during the last year, been of the formidable character which it frequently assumes. More extensive observation, however, is necessary to determine whether this favorable change is owing to the cause to which I have just alluded.

A moist atmosphere is also supposed by some to be favorable to the production of erysipelas. It has been thought to be more common and

more malignant in those hospitals in which the floors are frequently washed, than in those in which they are kept clean by dry rubbing. The moisture may have an effect in diffusing the miasmata, and perhaps rendering them active, when they might have been harmless in a dry atmosphere. The floors of the wards of the Massachusetts General Hospital are daily washed, and the air is often more moist than is agreeable.

There are certainly some facts that favor the opinion that moisture has something to do with the production of this disease, but enough is not yet known on this point to enable us to form a satisfactory opinion on the subject.

It may not be amiss to add, that I have seen nothing to lead to the belief that erysipelas is propagated by contagion. I do not mean to say that it never spreads in this way, but merely that no fact has come under my observation, either in hospital or private practice, that gives the slightest countenance to this notion.

It is well known that great diversity of opinion has existed, and still continues to exist, as to the *treatment* of erysipelas. Two very opposite courses have been adopted, and the advocates of each have claimed a great degree of success for their method. One of these consists in administering tonics, particularly cinchona, in some of its forms, from the very beginning of the attack; and the other, in depletion, treating it as a purely inflammatory affection. It is very questionable whether either of these methods is adapted to a majority of cases. There are but few patients, as far as I have seen, that will be benefited by bark through all the stages of erysipelas; and, on the other hand, though depletion is unquestionably highly useful to some at the onset, there are not many who who will not derive advantage from tonics before the termination of the disease. In fact, they may be given with advantage earlier, and to a greater extent, than in almost any other complaint. This is particularly true of the class of subjects that are met with in hospital practice, persons for the most part whose constitutions are impaired or broken down by previous disease or excess.

The sulphate of quinine is perhaps the best preparation, and the quantity given should not be less than half a drachm in twenty-four hours; in fact, patients are often benefited by a much larger quantity.

When bloodletting is required, topical bleeding is all that I have been in the habit of using, and this I believe is all that is required. I have not resorted to incisions, though they were much recommended at one time, because it is difficult to limit the quantity of blood taken in this way, and because fatal effects have sometimes resulted from them. Punctures made with a lancet in the inflamed part are equally efficacious,

and perfectly safe; but there is no objection, that I am aware of, to the application of leeches, and these I employ to a great extent, and apparently in many cases with very great benefit. They should be applied on the sound skin, and it is very unusual for the inflammation to extend beyond the part on which they have been applied. This is certainly remarkable, as leeches are supposed occasionally to produce erysipelatous inflammation, especially when applied about the face.

Local bleeding is the only topical remedy that I regard as of much value in the treatment of erysipelas. This opinion may excite surprise. Great confidence is placed by some in mercurial ointment, the nitrate of silver, diluted alcohol, lead water and cold lotions, while others prefer warm applications. I must confess that I have not been able to satisfy myself that any one of these has the slightest power of arresting the disease, nor much in mitigating its violence. My practice, therefore, is to use that which is most comfortable to the patient.

The efficacy of local applications in erysipelas has probably been very much overrated. No one places any reliance on them in measles or smallpox, because they are constitutional diseases; and does not the same reason apply with equal force to erysipelas? Local bleeding is undoubtedly in many cases useful, but this cannot be regarded as a topical remedy only.

In severe cases, the disease is usually preceded by a chill, with intense pain in the head and back, and this is followed by great heat. These symptoms, for the most part, occur before any change takes place in the appearance of the skin.

An active emetic, followed by a purgative, and this succeeded by some mild diaphoretic, as the liquid acetate of ammonia, seem to be the only general remedies that are called for in the first few days of the disease. At a very early period, however, quinine and other tonics, with a generous diet, can be given to advantage, especially to patients of feeble habits of body. Under this course I have often seen the pulse become stronger and less frequent, and the mind lose the wildness which is very apt to attend erysipelas, especially when it attacks the head and face.

A liquid diet, of the mildest possible kind, I believe to be best in the early stages; but if the disease assume a severe form, generous and even stimulating food will be found requisite. Wine, wine whey, wine and water, and malt liquors, are often useful, and in the low forms of the disease, especially in patients with feeble and shattered constitutions, I am confident that I have prescribed alcohol with advantage.*

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* I am happy to state that not a case of erysipelas has occurred in the hospital during the last six months.

Fracture of the Lower Jaw.—Six cases of this accident were admitted into the hospital during the year. Two of them were simple, and four compound fractures; and I should think that this was not far from the usual proportion, judging merely from my own practice. The jaw is covered on the inside with so thin a layer of soft parts, that the injury which is sufficiently violent to cause the fracture, is in many cases powerful enough to lacerate these.

My purpose in noticing these accidents, however, is to speak of a simple mode of treatment, which is applicable to many cases, and which I have frequently found very efficacious. When the bone is not comminuted, and there are teeth on each side of the fracture, the ends of the bone can be kept in exact apposition by passing a silver wire or strong thread around these teeth, and tying it tightly. In several cases of fracture of the jaw, in which the bone was broken in one place only, I have, in the course of the last few years, adopted this practice with entire success, and without the aid of any other means. It will be found very useful, also, as an auxiliary, in more severe cases, in which it may be required to use splints and bandages, or to insert a piece of cork between the jaws, as recommended by Delpech. It requires some mechanical dexterity to apply the thread neatly; but in large cities we can avail ourselves of the skill of dentists for this purpose, and I have in this way been frequently indebted to the ingenuity of my friend, Dr. Solomon Keep.

Fractures of the Thigh.—When this accident occurs below the middle of the bone, it is usually treated at the hospital by extension and counter-extension. The apparatus used for this purpose is a modification of Desault's, the modification consisting principally in the adaptation of a screw to the cross piece which connects the splints together at the bottom, and to this screw is attached the band or sock which passes around the ankle. By this means the extension is made more in the direction of the axis of the bone, than by the original machine, and the fractured surfaces are consequently brought more in contact.

The objections that are often made to this apparatus, I have not found to hold good to any extent in practice. It rarely produces much irritation in the perinæum; I have never seen ulceration there but once from this cause, and this was in a patient of a peculiarly irritable habit. It is more apt to give trouble about the ankle, on which the extending band is applied, and I have seen the heel ulcerate and slough in a few cases. These ulcers are exceedingly obstinate. Something, no doubt, may be done to prevent them by careful attention, but they will occasionally occur, even when the utmost vigilance is employed.

Another inconvenience which sometimes follows the use of this apparatus, is the stiffness of the knee. I have never known this, however, to be permanent; but it often continues several weeks, and is in some instances quite troublesome.

Notwithstanding these objections, I prefer this apparatus to any other that I have ever used for treatment of fractures of the shaft of the thigh bone, below the middle. Fractures of the condyles of course require a different mode. In the great majority of those cases which I have seen treated in this way, there was but little if any shortening, deformity or lameness, and the patients hardly suffered at all while under treatment.

I am aware that writers urge many other objections to this apparatus, but I feel confident that most of these are theoretical, and are advanced by those who have never given it a trial, or have used it perhaps in cases where the fracture is high up, and in which I have no doubt that other means will be found more useful.

Mr. Amesbury's apparatus for fractures in the lower half of the thigh bone, I have never employed, merely because the one I was accustomed to answered the purpose so well.

It must be admitted, however, that in fractures of the upper third of the thigh, the modified apparatus of Desault does not do so well as when the bone is broken lower down. This is especially true in fractures of the neck of the bone, either within or exterior to the capsular ligament. Some have supposed that when the fracture is entirely within the ligament, bony union never takes place, whatever treatment may be adopted. But this is not correct, for there are well authenticated cases to the contrary. It is no doubt difficult to effect bony union in this accident, because the head of the bone, when thus detached, is nourished only by the vessels of the round ligament, and because it is not easy to keep the fractured surfaces in contact and the parts completely at rest. But even ligamentary union will be much more complete if these circumstances are attended to, than if they are neglected; for if the parts are not kept together, the ligament will be much longer than it otherwise would be, and the limb consequently less useful.

When the fracture is high up, there are of course more muscles inserted into the lower fragment, and consequently there is greater danger of displacement, than when the fracture is lower down, and it is also more difficult to confine the pelvic portion of the thigh bone. Something more than mere extension and counter-extension is frequently necessary to bring the fractured surfaces in apposition under these circumstances; and it is very important that steady pressure should be made so as to keep them in close contact. Every one, who is at all familiar with the

treatment of fractures, knows how great a power pressure exerts in bringing about a bony union.

Now Desault's apparatus is not calculated to make this pressure, and some have thought that in fractures of the neck of the thigh bone, the inner splint is apt to separate the fragments by pushing the lower portion outward.

There are other indications which are not perfectly answered by this machine, when the fracture is high up. But it is unnecessary to speak of these, as it is not my object to make a treatise on the subject, but merely to notice an apparatus which I think accomplishes the intention of the surgeon more completely than any other that I have ever seen. This is Mr. Amesbury's fracture-bed. I shall not attempt to describe it, as no description would be intelligible without drawings, and its construction is so simple that it would be readily understood by any one who wished to use it. It is adapted to all fractures of the thigh, occurring in the upper third of the bone, requiring slight modification in each case, and so constructed that the part on which the thigh is to rest can be made longer or shorter, as may be necessary to adapt it to the size of the patient. During the last year I have used it several times; in one case of a fracture of the neck of the bone within the capsular ligament, and in another of the neck exterior to it. Both of these did well. There was scarcely any lameness or shortening of the limb, and the patients suffered but little while under treatment.

There was recently a patient in the hospital with a fracture just below the great trochanter, who used this fracture-bed. He was placed upon it immediately after the accident, and kept there five weeks, and was perfectly comfortable during the whole time. He has recovered the entire use of his limb, without any perceptible lameness or shortening.

Gonorrhœa.—But few patients with this disease or syphilis come to the hospital. None are received there on free beds; and from those who pay, something more is required than from those laboring under other diseases.

For several years past I have laid aside entirely injections, in the treatment of gonorrhœa, and have substituted for them balsam copaiva, or cubebs, or both, according to circumstances. I have rarely found copaiva alone sufficient for the management of the disease. It very frequently produces an annoying cutaneous eruption before it has effected the purpose for which it is given, and we are obliged to lay it aside. Cubebs has been more often successful in my hands. This I give in doses varying from a scruple to a drachm, three times a day, in powder. It may be given at the beginning of the disease, and instead of increasing the ardor urinæ, it usually lessens it.

When cubebs alone does not succeed, I have frequently found a combination of it with copaiva very useful. I have rarely known the following preparation to fail in removing the disease. R. Pulv. gum. acaciæ, pulv. cubeb, balsam. copaib. āā ℥ij.; aqua cinnamon. ℥xvi. M. From half an ounce to two ounces of this mixture should be given twice a day, and it should be administered as soon as the complaint is discovered. The only objection to it, that I am aware of, is that it is so extremely nauseous, that many persons find it difficult to take.

It is a common notion that strictures in the urethra, which are so frequent after gonorrhœa, are produced by the injections that have been used. And this, no doubt, is oftentimes the case. But I have more than once met with a stricture consequent on gonorrhœa, where no injection had been used, the complaint having been removed by internal remedies. Whether these were cases of uncommon severity, I cannot say, as they did not occur in my own practice. It is probable, however, that they were, and that the stricture was the result of the effusion of fibrin, which it is well known sometimes takes place when the mucous membranes are highly inflamed.

Inflammation of the Hernial Sac.—The four following cases came under my care during the past year. They were new to me, and I am inclined to think that they will be so to most of my readers, as I can find no description of precisely similar ones in any work which I have consulted.* I regard them all as inflammation of the hernial sac, having many common features of resemblance, and differing from each other only as they were in different stages of inflammation. In one of them the sac was gangrenous; in the second, fibrin was effused in abundance, but no pus formed; in the third, suppuration took place; and in the fourth, the inflammation was so much reduced, that it no doubt terminated by resolution.

These cases will be best understood by giving the hospital record of each, made at the time, and I shall present them in the order in which they occurred.

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* The following case, in Mr. Mayo's excellent work, "Outlines of Human Pathology," has a strong resemblance to them.

"A patient (a recent case in the Middlesex Hospital) had all the symptoms of strangulated hernia; there was a small tumor, feeling like an omental hernia, at the crural arch. The patient had a swollen and tender belly, and stercoraceous vomiting. Repeated attempts had been made to reduce the rupture, which the patient said was considerably larger before these attempts had been made. The bowels had acted twice with enemata. I did not attempt to return the tumor, but operated immediately, when I found an *empty sac;* I divided the neck of the sac. The patient died in thirty hours. On opening the abdomen, the upper part of the small intestine was found distended, swollen and inflamed. A segment of a portion of the ileum, which had been down, was deeply discolored, and retained the impression of the close grip of the neck of the sac. It had been forced back into the body, before the performance of the operation, by the taxis, too much injured for recovery, through the length of time it had been strangulated. The tumor upon which I operated was the sac, with thickened adipose matter partially surrounding it."

Case 1st.—Michael Murphy, æt. 40. Married. Laborer. Irish.

July 20.—States that since childhood he has always had an inguinal hernia of the left side, easily and entirely reducible at all times—never any incarceration that he is aware of. Six days since was attacked with pain in the abdomen about umbilicus, described as colic—got some cathartic medicine, which operated. Three days ago hernia came down, and has not been able to reduce it since. Has been bled twice, and the taxis attempted by several without success. Has not had much pain in the tumor. No vomiting. Took salts yesterday, which operated.

Now, pulse 88, of moderate strength. Tongue, white coat on lobes, moist. Strength good. No sickness. No pain, nor tenderness of epigastrium. Some tenderness in left iliac region, less in right. On examination, on the left side there is an inguinal hernia—the size of two clenched hands—to the touch hard, without resonance. Integuments slightly reddened. External ring tightly girt around the neck of the tumor, which is remarkably large and firm. Some pain upon pressure. Hernia probably omental.

A purgative enema was first given, which came away without operation. The taxis was then attempted in the warm bath, but without success, although the size of the tumor was somewhat diminished.

The patient was then ordered the following—R. Ol. crot. tig., gtt. i.; jalapæ, q. s. Ft. pil. no. i. Every four hours till free operation. Ice to be assiduously applied two hours. A consultation to be called for to-morrow at 11, A. M., to decide on the propriety of operating under the present circumstances.

6, P. M.—Four full dejections after one pill. No reduction of tumor. Pulse as before. Apply bitter fomentations through night.

21.—Scrotum œdematous at bottom. Tumor still the same. Pulse 88. Very little pain. Slept part of night. A consultation being held, it was decided to perform the operation.

11, A. M.—Operation by Dr. Hayward. Patient being placed upon the table, an incision was then made from the edge of the ring two thirds down the tumor, dividing the integuments. The different fasciæ, which were much thickened, were then divided on a director in the usual manner. The sac being thus exposed, was opened; it was one quarter of an inch in thickness. On opening the sac a gangrenous odor was emitted, and on further examination nothing was found in it. But the sac itself was in a gangrenous state. It was then decided to remove the sac, which was accordingly done, though with much difficulty, on account of the numerous and strong adhesions. In the removal of the sac, the tunica vaginalis testis was punctured, and about ℥ij. of the water of a hydro-

cele escaped. Several arteries required ligatures, principally in the cellular membrane of the scrotum. The remaining portion of the sac bleeding freely, a ligature was placed round it. The finger passed into the ring detected no stricture. The edges of the wound were then brought together and retained in place by a single suture. Adhesive plaster, pledget, dry lint, compresses and a T bandage completed the dressing. The patient was then conveyed to bed.

22.—Some pain in back yesterday P. M. Slept pretty well in night. Now quite easy. Pulse 88. No tenderness of abdomen. Tongue, thin white coat as before. No pain in bowels. No dejection. R. Ol. ricini, ℥i.

23.—After oil five dejections. Night quite comfortable. Now, skin of good temperature. Pulse 88. Tongue as before. No tenderness or fullness of abdomen. The whole of scrotum, together with testicle, swelled to five times the natural size; on right side œdematous, without pain. Upper part of wound open, discharging considerable offensive serous fluid. Portion of cellular membrane, &c. in a gangrenous state. Yeast poultice to upper part of wound.

24.—Continues comfortable. R. Ol. ricini, ℥ss.

25.—After oil two dejections. Continues quite comfortable. Swelling of right side of scrotum quite gone; of left side less, still hard, as if testicle enlarged. Sloughs separating. Much thin yellowish discharge. No pain. Pulse 84. Tongue cleaner.

26.—One dejection yesterday. Continues much the same. Copious discharge of bright orange fluid from wound, with escape of gas on pressure, probably from the sloughing of the cellular membrane. If no dejection at 2, P. M., oil ℥ss. Rice and milk.

It is unnecessary to give any more of the hospital record. The patient continued steadily to improve, the wound healed completely, and on the 12th of September he was discharged "well."

This case, it will be perceived, was taken for omental hernia. It is true, however, that coughing did not give any impulse to the tumor when the hand was placed on it. But this was the only symptom that was wanting, and the absence of it was accounted for on the supposition that the omentum had formed strong adhesions to the neck of the sac, and that the tumor was in this way, as it were, insulated.

An operation seemed to be called for, as the tumor was increasing in size and tenderness, rendering the patient unable to stand, except for a minute or two at a time, and producing a great degree of œdema of the scrotum on both sides, which it was feared might terminate in sloughing.

The result, perhaps, may be thought to have justified the course that

was adopted. If the case had been left to the efforts of nature, there would have been extensive, if not fatal sloughing, even admitting that the patient could have escaped peritoneal inflammation, which was, no doubt, very much to be apprehended.

How far this state of the sac might be attributed to the attempts made to reduce the hernia, it is not easy to say. But it is certain that these were not great or long continued after the patient was admitted into the hospital, and it will be seen by the third case that very severe inflammation of the sac may come on spontaneously.

The second patient was admitted into the hospital before the first was discharged, and his case is thus entered in the records of the house.

Case 2d. Edwin Beard, æt. 19. Single. Hostler. Boston.

July 31.—Patient reports—that he has had a small inguinal hernia of the left side about one year. Has worn a truss, which, however, has not fitted him, the hernia occasionally escaping. Three days since, the tumor appeared, and has not been reduced since. Has worked till this morning, when he went to consult a truss-maker concerning a new truss, who advised his entrance here. Has had no constipation, no vomiting, and no symptoms of strangulation. No pain in tumor before to-day, and that only after being handled by several persons, who attempted to reduce it.

On examination—tumor the size of a hen's egg at the left inguinal ring, firm, elastic, slightly tender. Neck of tumor girted by ring. No impulse on coughing. Cellular membrane of scrotum somewhat infiltrated. Pulse 64, of good strength. Tongue clean. Bowels open this morning. Purgative enema now. Twelve leeches to tumor. Liquid farinaceous diet.

August 1.—Slept quite well in night. Tumor as yesterday. Very slight pain. Two copious dejections. No tenderness of abdomen. Eight leeches to tumor.

2.—More swelling of tumor. More redness. Rather more tenderness and pain. Pulse and tongue as yesterday. No dejection. R. Sol. mag. sulph., ℥ iij. Poultice to tumor thrice daily.

3.—More pain in tumor. Size increased. More redness. More tenderness. Considerable œdema of scrotum. Otherwise well. Appetite good. May have broth.

4.—Pain in tumor greater. Size, redness, tenderness, &c. increased. Tenderness especially about ring. Pulse 88. Tongue, thin white coat. No tenderness of abdomen. Bowels open. Appetite good.

5.—Some œdema of tumor, pain, &c., as yesterday.

7.—Size of tumor less. Œdema still. Indistinct and uncertain sense of fluctuation. Otherwise well.

9.—Tumor rather diminishing. Tenderness less. Appearance of inflammation less. Otherwise well.

11.—Considerable diminution of tumor. Tumor at present about three inches in length, very firm, no indication of suppuration. Tenderness much less. Testicle plainly distinguished below tumor. Some œdema of scrotum. Pulse and tongue good.

17.—Swelling much diminished. Now firm, hard, not tender. Scrotum quite free from œdema. Otherwise well. Omit poultice. Apply the following lotion. R. Ammoniæ mur. ℥ss.; aceti, aquæ, āā Oj. Ft. sol.

18.—Tumor perceptibly diminished since last report.

23.—Tumor diminishing and softening. Otherwise well.

27.—Tumor the size of a walnut, or perhaps a little larger; quite hard. Otherwise well.

30.—Tumor much the same. Apply empl. hydrarg. 3 by 2.

31.—Veins of scrotum and spermatic cord somewhat distended. Otherwise the same.

Sept. 1.—Tumor softening and diminishing. In other respects well.

5.—Redness increased by walking. No impulse on coughing. To wear suspensory bandage.

7.—Discharged well.

Case 3d. Thomas Dancaster, æt. 40. Single. Seaman. England.

February 8.—Patient reports—about twelve months ago noticed a small tumor, referred by him to the situation of the external abdominal ring of the right side, easily reduced by himself, and often returning into abdomen on lying down. Tumor was about "as large as the end of his thumb," and has appeared several times since, especially if his bowels became costive, as they frequently were, but he thinks not after any unusual exertion. Sometimes it did not come down for two or three months. Tumor has not been in the least painful or tender at any time till February 2d, nor has it incommoded him in any way.

February 2.—Patient sailed from Eastport, Me., and exerted himself in pulling ropes, &c., but not more than was usual with him, and about midnight was seized with severe pain across upper part of abdomen and about umbilicus, and towards morning with pain in right iliac region, the pain elsewhere ceasing. Since then, the tumor has been constantly increasing in size, pain and tenderness. On night of sixth, when he arrived at Boston, the tumor, he thinks, was not larger than an egg, but since has increased very rapidly. Has had little or no sleep for three nights past. Appetite has been impaired by pain, but has had no chills, headache or nausea. General health has always been pretty

good. When on shore has been in habit of using ardent spirits freely. Has never worn a truss.

Now, pulse 66. Appetite small. Tongue slightly coated. Five dejections yesterday, after salts. Much pain in tumor. Upon examination, a large tumor, commencing about two and a half inches within and one inch below right superior spinous process, and running obliquely downwards and inwards, and terminating just above the testicle, being five inches long, and three inches broad at widest part, having a straight and abrupt face outwards, but inwards gradually rounding off towards hypogastrium, having a decided fluctuation across its middle. Integuments œdematous, with a blush of redness, and somewhat tense. Much tenderness on pressure. No impulse felt on coughing, but pain is increased by it. R. Sol. mag. sulph. ℥iij., and repeat if need. Eight leeches to tumor. Large poultice after leeches. Milk and vegetable diet. Horizontal posture.

February 9.—Experienced much relief of pain after leeches. Slept but little, was restless. Now tumor quite tender, but less painful than at entrance, and rather more fluctuating. Four dejections.

20.—Fluctuation now very decided. Slight pointing about middle of tumor, near its outer edge. Slept but little from pain. Tenderness increased. Pulse 68. No dejection. R. Sol. mag. sulph. ℥iij., and repeat if need.

11.—Slept but little, restless in the night, and had considerable pain. Early this morning abscess broke spontaneously, and discharged freely, perhaps ℥iij. in all. Discharge thick, purulent, with some coagula, rather dark and slightly fœtid. Tumor now diminished, less tender, little painful, redness less. Appetite improved. No headache. Six dejections, at least, after two doses.

12.—Has had but little pain. Slept well. Appetite pretty good. Two dejections. Tumor less, but slightly tender, not painful, quite hard in most parts.

14.—Doing very well. No pain. But very slight tenderness in tumor. Little discharge. Slept well. Appetite good. One dejection. Simple dressings.

15.—No dejection. No pain. Discharge scanty. R. Sol. mag. sulph. ℥ij., and repeat if need.

23.—Abscess almost entirely healed. Slight tenderness just opposite spine of pubis on outer edge. Some induration. Walks about, though not with perfect ease.

March 9.—Abscess entirely healed. No tenderness. Some induration for about one inch below abdominal ring. Impulse or motion of

intestine felt on grasping remains of tumor close to ring. No trouble in walking or stooping.

20.—Discharged well.

CASE 4th. Daniel W. Bemis, æt. 38. Married. Sailor. Boston. March 2.—Patient reports—his mother told him that thirty years ago he had a fall, striking right iliac region upon the corner of a table, and that a swelling ensued soon or immediately after in the situation of the inguinal ring; but patient himself recollects nothing of the fall, or of the tumor till twenty years ago, since which time he has always worn a broad canvass belt around pelvis, passing over the face of the tumor, and prevented from slipping upwards by a thigh strap. During these last twenty years tumor has varied in size from a "pigeon's egg to a hen's egg," and at all times has felt soft and elastic, yielding readily before the finger, but instantly resuming its former shape on removing the pressure. Never has been tender to the touch, nor red, nor painful. Tumor would attain its largest size only in wet stormy weather, and would return to its smallest size on the return of fair weather. Patient has never experienced any inconvenience in straining or lifting, and would only be reminded of increased size of tumor by its pressure on the belt, and has not been subject to cramps in bowels.

February 25th, P. M., felt an unusual degree of pressure against belt, with a sharp, cutting pain in situation of tumor, patient at the time sitting perfectly still, and not having exerted himself previously. Went up stairs and removed belt without relief, and then undressed and went to bed. Soon after, while lying on left side, and pressing forcibly on tumor with the ends of fingers of both hands, he heard a rumbling gurgling sound, and at the same time felt something shoot suddenly down between the ends of his fingers into the scrotum, accompanied by a sensation of tearing in part. Pain continued sharp and steady through night of 25th, and through the next day, and ceased almost entirely after this, except on night of 27th, as will be stated. On morning of 27th had one small, hard dejection, the first since attack. Had had one dejection the day previous to attack. On night of 27th was attacked with cramp, which was soon followed by nausea and vomiting, and considerable pain in tumor, and vomited about a quart of yellowish watery fluid, pain continuing by spells through night. On 28th, early in morning, took one ounce of salts, which were followed by eight or nine dejections, and yesterday morning half an ounce of salts, which operated freely last night and this morning. Has had no pain since night of 27th, and no appetite since 25th, and has experienced no inconvenience for last two days, except from operation of medicine. Tumor has been quite tender during the whole time, and has been constantly covered

with fomentations. General health has always been good. Has not been to sea for the last twelve months, and latterly has used spirits very freely.

Now, pulse 70. No appetite. Tongue slightly coated. Says he feels perfectly well, excepting slight pain at upper and lower parts of tumor, where there is some tenderness. On examination, tumor commences at abdominal ring, and extends downwards and inwards to the bottom of the scrotum, being six inches in length by measurement, and having a general resemblance, in shape, to a large pear—base somewhat flattened, measuring four inches from before backwards, and three inches from side to side. Tumor nowhere feels indurated. Portion occupying scrotum is very yielding to the touch, elastic, and decidedly fluctuating. Upper portion more resisting, and giving a slight impulse on coughing, but perhaps only what would be communicated by the motion of the integuments, &c. No impulse on grasping lower part of tumor. Slight blush of redness over base of tumor. Scrotum not tense, but corrugated. Testicle not to be felt, which, by report of patient, has never descended into scrotum as low as the left testicle, it remaining just at the side of the commencement of the penis. Patient thinks it is smaller than the other, and that it was injured in his fall. Ten leeches to base of tumor. Poultice after leeches. Milk and vegetable diet. Horizontal posture.

3.—Has had no pain since leeches. Sleeps well. Tenderness entirely gone. No perceptible alteration in tumor. No appetite. No dejection. Pulse 72. Keep tumor constantly wet with the following —R. Ammoniæ mur. ℥ss.; aceti, aquæ, ăā Oj. Ft. sol.

4.—Last evening complained of some griping pains in bowels, and got sol. mag. sulph. ℥ij., since which has had one dejection. Slept well. Has had no pain in tumor, which is evidently diminished in size. No tenderness. No redness. Feels perfectly well.

5.—Two dejections yesterday. While in water closet, about half past five, P. M., having the last dejection, during which he kept a steady pressure on the tumor with both his hands, he felt considerable pain in situation of abdominal ring. Upon returning to bed, and lying on back, in a few minutes he felt a dragging or pulling pain in right lumbar region—and on drawing up his knees, and while still pressing on tumor with his hands, it suddenly shot upwards into abdomen with a gurgling noise. Had slight pain about ring for a short time, but slept well. Now, greater prominence than natural, from ring to top of scrotum, but no induration. Sac felt extending about one inch below ring; and on coughing, the motion or impulse of a short loop of intestines is felt. Intestine can be readily returned into abdomen, and the index finger easily passed into the abdominal ring, which is quite large. Testis now felt opposite roots of penis; is rather tender. Discharged well.

It must be admitted that there is some obscurity about these cases, but the supposition that in all of them the hernial sac was inflamed, seems to explain them better than any other. It is true, that the sac does not ordinarily take on inflammation to any considerable extent; at any rate, it rarely becomes thickened by it. In cases of strangulated hernia, in which the operation is performed, we often find the sac very thin, and semi-transparent, as much so as in health, though it may have been subjected to a great degree of pressure in the attempts made to reduce the hernia. On the other hand, it is certain that in the first case the trouble consisted solely in inflammation of the hernial sac, which had become excessively thick and gangrenous. There was no protrusion of omentum or intestine, and there was no strangulation; and yet this case had more marks of hernia than any of the others. It proves, unequivocally, that the hernial sac can undergo changes of an important character, such as are calculated to render the diagnosis difficult; and these changes seem to be the result of inflammation, which may come on spontaneously.

All these patients had, for some time before they came under treatment, been subject to hernia; in all of them the tumor was small, extending but little if at all beyond the external ring, occupying the inguinal canal. From some cause, a protrusion, to a considerable extent, of some of the abdominal contents took place, carrying before them, of course, the hernial sac; in two of the cases there seems to have been, for a short time, some symptoms of strangulation, which soon passed off; but in all of them, the contents of the sac, whatever they may have been, were no doubt returned into the abdomen.

There was in the first case the most satisfactory evidence that the tumor consisted solely of hernial sac. It was cut down upon and laid open; it contained neither omentum nor intestine; but it was inflamed, thickened and gangrenous.

In the second case there was no well-marked symptom of strangulated hernia, or even of reducible hernia. There was no impulse on coughing; no constipation; no vomiting or nausea; and no pain, except in the tumor. The outline of the hernial sac could be distinctly traced with the hand, and its upper part was tightly girt by the external ring. Under an active antiphlogistic course it was gradually reduced in size, but the sac could be still felt, though it became thinner, and much contracted; the pain subsided, and the patient found no inconvenience in resuming his ordinary avocations.

The circumstances attending the third case enabled me to form a satisfactory opinion of the precise nature of the difficulty. When the contents of the abscess were discharged, the finger could be passed in at the opening, and the hernial sac could be distinctly traced up to the abdom-

inal ring. As the inflammation went off, the sac contracted; but it could be plainly felt in its whole extent, though much reduced in size, at the time the patient left the hospital.

The sudden reduction of the tumor in the fourth case throws over it some degree of obscurity, as it is not usual for the hernial sac to be returned after it has once been protruded from the abdomen. This may, however, happen. Some operators reduce it, when it can be done with ease, in the operation for strangulated hernia; but it is a practice by which nothing is gained, which is in some degree hazardous, and which consequently should not be imitated.

There are instances on record, also, in which it has been reduced by taxis; and this is much more likely to happen when it has been recently protruded, than when it has been of long standing, as there is of course much less probability of the existence of adhesions in the former than in the latter case.

The "gurgling noise" which the patient said he heard at the time the tumor was reduced, might have proceeded from the intestine which was in the upper part of the sac, as a small portion of the intestine could be felt near the ring after the reduction, which could be readily returned into the abdomen, and which no doubt went up at the time he reduced the tumor.

It must be admitted that in ordinary cases, in which the hernial sac becomes thickened by inflammation, the interior of the sac remains unchanged, differing, therefore, in this respect, from two of the cases just related. But, on the other hand, it is well known that some of the serous membranes, when inflamed, are not only thickened, but covered by a false membrane. This is the result of acute inflammation, such as took place in these cases, wholly unlike that which usually occurs in old hernias, and which is altogether of a chronic character.

The following operations were performed during the year.

Operation	No.	Operation	No.
Amputation of thigh - -	3	Prolapsus ani - - -	3
" leg - - -	3	Removal of cancer of breast -	3
" toes - -	3	" " tongue	1
" forearm - -	1	" " face -	1
" fingers - -	1	" hemorrhoids, internal	3
Cataract - - - - -	2	" hydatid of breast	1
Fissure of the rectum - -	1	" nævus, by ligature	1
Fistula in ano - - - -	6	" tumors, various -	4
" urinary - - -	1	" " chronic mammary	1
Hare-lip, double - - -	1	" fungus hæmatodes on abdomen -	1
Hernia, inguinal - - -	1	" do. of breast - -	1
" femoral - - -	1	" testis - -	1
Hydrocele, by incision - -	1	" tonsils - - -	1
" palliative operation	1	Trephining - - - -	1
Ligature of femoral artery -	1	Total	53
Paracentesis abdominis -	1		
Polypus of the nose - - -	2		

All the patients, with two exceptions, on whom operations were performed, either recovered entirely, or so far as to be able to leave the hospital. The two individuals who died had received severe injury; a leg in each case was literally crushed, and when reaction came on, the sufferings of the patients in the injured part were extreme. The limbs would have been useless if they could have been saved; but this was not possible, nor was it probable that life could have been preserved if they were not removed. One of them was amputated above, and the other below the knee.

The first of these had suffered from copious hemorrhage before his admission, which did not take place till about twelve hours after the accident. A slight reaction, however, had come on, and the circumstances of the case would not justify any longer delay. He rallied somewhat after the operation, and his sufferings were much diminished, but he soon began to sink, and died in about eight hours after the amputation.

The second patient lived several days, but his injury was not confined to the limb. His principal pain was referred to the abdomen, and the contents of this cavity were found, on examination after death, to have been highly inflamed. Though the amputation did not save life, I have no reason to think that it tended in the least to hasten the fatal termination. This should rather be attributed to the extent and severity of the injury.

It is not, perhaps, perfectly well settled, even at the present day, at what time amputation should be performed after accidents, when this operation is necessary; in other words, whether it should be done immediately, or whether we should wait till reaction comes on. At any rate, it is certain that a uniform practice does not prevail; some surgeons operate without delay, while others prefer to postpone it till the system has in some measure recovered from the shock of the injury.

There are, no doubt, cases in which the operation may be done at once, the constitution not having suffered from the accident. But when the constitutional symptoms are severe, the pulse feeble, the skin cold, and the respiration perhaps laborious, I cannot doubt that the operation should be deferred till these symptoms have passed off. They arise from the shock which the nervous system has received; the local injury at that time is of secondary importance; it adds nothing to the sufferings of the patient, and an operation done when nature is struggling to restore the vital energy, would be likely to cut off all chance of recovery. As soon as reaction takes place, the injured part becomes painful, and should then be removed.

There is also some difference of opinion as to the means that should be used for the purpose of bringing on reaction; some administering alcohol and other powerful stimulants freely, while others disapprove of their

use altogether. It is, I believe, safest and best to depend on the application of heat, both externally and internally applied; by means of hot spirituous fomentations over the heart and epigastrium, and mild warm drinks introduced into the stomach. Some cases may possibly require small doses of the aqua ammoniæ, camphor, or wine, diluted with water; but these should be given sparingly, as the great danger is from inflammation, that is so apt to come on after reaction has taken place.

Amputation.—Of the seven large limbs that were removed, six were done by the circular operation. This fact is noticed, from the circumstance that Mr. Liston has recently seen fit to denounce this operation in unqualified terms, declaring it to be "vile and inadmissible" in all cases where there are two bones in the limb. It is not, perhaps, surprising that an individual should have a decided preference to that particular mode of operating which he has adopted; but it is remarkable that he should give a sweeping condemnation of a method which has the sanction of some of the greatest names in modern surgery. The flap operation is better adapted, no doubt, to some cases than the circular; but there are very many others in which I believe that the latter will be found to be the best. In fact, I must confess that where circumstances will admit of the performance of either, I should operate by the circular incision. It has, to my mind, advantages over the other method, that more than counterbalance the greater length of time which is required for its performance. A better stump, it seems to me, is made by it, and the parts heal with quite as much readiness. A patient, from whom I removed the leg above the knee by the circular operation, in June, 1837, walked out in sixteen days after the amputation, the wound being entirely healed. An artificial limb was fitted to the stump, in a few weeks after, and upon this he has walked with great comfort ever since.

Two of the amputations were performed in consequence of that peculiar affection of the knee joint, so well described by Sir Benjamin Brodie, in which a remarkable change of structure takes place, nearly the whole of the interior of the articulation being converted into a gelatinous mass. The patients were both young men, a little more than twenty years of age, of scrofulous habit. The disease had in each existed several years, increasing gradually, but at no time attended with severe pain. The constitution at length becoming affected, an operation was advised. One of them, whose limb was removed more than a year ago, has since enjoyed uninterrupted health. He recovered rapidly, and is the individual to whom I referred as having walked out so soon after the amputation.

The second patient convalesced more slowly; the system seemed to suffer much more from the shock of the operation; but in three or four weeks a favorable change took place, and he was discharged from the

hospital "well," in forty-four days after the removal of his limb. His health continued good for some months, when the other knee began to be slightly affected, which he at first attributed to fatigue and over exercise. Whether this trouble has assumed the same character as the original disease, and what his present situation is, I am unable to say, as he resides at a distance from the city, and I have not seen him since he left the hospital.

I have noticed these two cases, because it is not long since this peculiar affection of the knee joint was first described, and because it is not yet well understood. My own experience in relation to it would lead me to believe that it is not so malignant in its character as it has usually been supposed to be, and that if amputation be performed before severe constitutional symptoms appear, the life of the patient will oftentimes be preserved.

Cataract.—Cases of disease of the eye are not numerous at the hospital, and no doubt will become less so, as the means of that excellent institution, the Massachusetts Charitable Eye Infirmary, are more enlarged. We had but one patient with cataract during the year. He had amaurosis in one eye, attended with complete loss of vision, and a cataract in the other, which came on in consequence of an injury. This eye was also slightly amaurotic, and the sensibility of the iris was somewhat impaired. His sight was only sufficient to enable him to distinguish the light, and opake bodies when they passed between him and the light.

I operated twice on this patient, dividing the cataract and capsule, and leaving them to be dissolved. The first operation gave him some degree of vision, but finding, after waiting three months, that portions of the capsule and the cataract still remained, I operated again, and the solution went on more rapidly. Neither operation was followed by much inflammation. When he left the hospital, his sight was so much improved that he could distinguish objects and walk about without assistance. There was reason to believe that a greater improvement would take place, as absorption was still going on, and I have since learnt that this is the case.

Fissure of the Rectum.—There is perhaps no surgical operation that affords so much relief as that for fissure of the rectum, and there is hardly any disease that is more painful. It consists in a superficial ulceration of the rectum, sometimes extensive, but more often narrow, and rarely more than an inch in length. It is found more frequently on the sides and posterior part of the gut, than on the anterior. It extends down to the sphincter, and can usually be brought into view, if the patient strains down. When this cannot be done, it can be felt by introducing the finger, though this is attended with great pain.

The greatest suffering is experienced at the time of defecation, and

it is then often so severe that the patients are obliged to lie down for some time after. The pain is attributed by Dupuytren to a spasmodic contraction of the sphincter; this seems probable from the relief that the division of the sphincter gives in these cases before the ulcer heals, and from the fact that the same train of symptoms is sometimes met with when no ulceration can be detected. There is reason to think, too, that there is nothing peculiar in the character of the ulcer, as it usually heals so readily after the operation; and this circumstance favors the opinion that it is often the result of mechanical violence, produced sometimes by hardened fæces, and at others by strong efforts made in parturition. It is very certain that it is more frequent in females than in males, and more common in those females who have borne children than in those who have not.

This complaint is aggravated by cathartics, and though anodyne enemata afford some relief, I have not found anything but the operation sufficient for the cure.* This consists in dividing the sphincter, either by cutting from within outwards, or from without inwards, carrying the incision, if practicable, through the centre of the ulcer. The method from without inwards I should think was to be preferred, as you can in this way, by passing the finger into the rectum and cutting upon it, limit more precisely the incision, than when you cut from within outwards. The dressing and treatment are the same as after the operation for fistula in ano.

The patient on whom I operated at the hospital was a healthy man of thirty-seven years of age. The difficulty had existed about four months, and was always greatest when the bowels were constipated. The trouble was steadily increasing; the pain was extreme after every dejection, and his sufferings were so great as to unfit him for his ordinary duties. In all other respects his health was good.

On examination, I found just within the margin of the anus, towards the sacrum, a narrow ulcer, an inch or more in length, quite tender and painful to the touch. The bowels having been emptied by an enema, the operation was performed in the following way. The fore finger of the left hand having been introduced into the rectum, a spear-pointed scalpel was thrust in outside of the sphincter, till it reached the point of the finger, thus including the sphincter between the edge of the scalpel and the finger. Both were then simultaneously withdrawn, the scalpel cutting its way out through the fissure. Lint was introduced between the lips of the wound, and a compress and a T bandage completed the dressing. For two or three days he had slight spasms about the anus, which were relieved by anodyne fomentations. But after this period he

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* When the ulcer is on the sphincter or exterior to it, constituting what may be called fissure of the anus, local applications, particularly Dupuytren's belladonna ointment, with rest, may cure it.

had no trouble; his dejections gave him no pain, though the ulcer was not healed, and he was discharged from the hospital "well," in fourteen days after the operation, in all respects able to resume his ordinary avocations.

Hare-Lip.—For the last two or three years, in performing the operation for hare-lip, I have not used the common hare-lip pins. They are almost always troublesome from their size, and occasionally produce ulceration, and in this way retard, if they do not altogether prevent, the success of the operation. Instead of them I have used, when operating on very young infants, small insect pins, and for larger children, long, fine, steel needles. A head of sealing wax is easily attached to these, and the sharp end, after it is carried through the lips, can be easily cut off by bone pliers. They interfere less with the process of adhesion than the old method, and in a number of cases in which I have used them, I have been much pleased with the result.

Hernia, Inguinal and Femoral.—There was, strictly speaking, no operation at the hospital during the year, for inguinal hernia; the case which was entered as such by the house-surgeon has already been spoken of, in the remarks on inflammation of the hernial sac. In almost all the important particulars the operation there noticed resembled that for strangulated inguinal hernia; but it will be recollected, no doubt, that the sac was found to be much thickened, empty and gangrenous; that it was removed, and the patient recovered.

The operation for strangulated femoral hernia was performed on an unmarried female 35 years of age. She first discovered the hernia three years ago, and in a year after it became strangulated, and was reduced by the taxis. From that time she had worn a truss, but this had not always prevented the hernia from descending.

About half past eight o'clock, on the morning of the operation, while coughing violently, the hernia came down and became strangulated. She had medical aid at 11 o'clock, and I first saw her at 1, P. M. As the taxis had been ineffectually tried, I advised, before further attempts, venesection and the tobacco glyster. These having been used, I saw her again at 3 o'clock, and made another attempt at reduction. This not succeeding, she was removed to the hospital, and the operation was performed at 4 o'clock.

This was done in the way recommended by Sir A. Cooper. Two incisions were made, one across the tumor, and the other at right angles to it, in the form of the letter T inverted, ⊥. The sac contained about two inches of small intestine, no omentum. The stricture was so firm that though strangulation had existed but seven hours and a half, the intestine was almost black, but not gangrenous. As soon as the stricture was divided and the bowel returned, she was much relieved. The operation gave her but little pain, but her sufferings had been intense

during the whole time the strangulation existed. The bowels were freely evacuated by two ounces of the solution of salts, which were given a few hours after the operation, and the patient ultimately did well, though her convalescence was tedious.

This case would not have been noticed, had it not been for a peculiar circumstance connected with it. She was menstruating at the time of the operation; this discharge was then suddenly suppressed, and did not reappear for some months. Though everything connected with the hernia did well, the wound healed kindly, and the bowels were either open spontaneously or easily moved by gentle laxatives, she was feeble for a long time, and troubled with a variety of complaints that could not readily be explained, though they were probably in some way connected with the sudden suppression of the catamenia.

There was a morbid condition of the mucous membrane of the whole alimentary canal, affecting particularly the mouth and pharynx and rectum, attended with a copious secretion of viscid mucus. She had severe pain by paroxysms in the bladder, vagina, uterus and about the anus, and though these were relieved by leeches and other means, it was apparent that her sufferings were very great. No sooner would one set of symptoms give way, than another, equally distressing, would appear; and this state of things continued, though in a less severe form than at first, for nearly three months, till in fact the menstrual evacuation made its appearance. From that time a perceptible, though gradual, improvement in her health took place.

It is certainly not usual for a sudden suppression of the catamenia to produce such grave symptoms, and it can only be explained by supposing either that she was in a morbid state at the time of the strangulation, or that that, together with the operation, might have rendered her unable to resist causes of disease that under ordinary circumstances would have had but little influence.

Hydrocele.—Of the three operations for the radical cure of hydrocele that are still in use, viz., injection, seton and incision, neither of them, I think, is adapted to all cases. In cases of old hydrocele, where the tunica vaginalis is so thickened and opake, that there is no translucency in the tumor, no one would probably use the injection. And even where it seems to be proper, it is often very uncertain in its effects, sometimes not exciting sufficient inflammation to cure the disease, and at others exciting so much as to cause no small degree of anxiety. It is unfortunately true, that the pain felt at the time of the operation is no indication of the degree of inflammation that will ensue. I have known a portion of the scrotum to slough where no fluid escaped into the cellular membrane, and where the patient complained of no pain at the time of the operation. Everything was done in the most skilful manner,

and I feel that I have a right to speak confidently about it, as I was not the operator.

Again, even in the hands of the most careful, some of the injection will occasionally escape into the cellular membrane, and then a train of troublesome, if not dangerous, symptoms ensues. I am aware that this accident can usually be guarded against, but it will not always be, except by those who frequently practise the operation.

But if this accident does not occur, and the inflammation be not excessive, we often meet with another difficulty, and that is the operation fails because there is not inflammation enough.

This, then, must be regarded as an uncertain operation, and I should advise its performance only on healthy adults, in whose case there was no doubt of the nature of the disease.

The *seton* would seem to be, *à priori*, the best mode of operating. It gives but little pain, it evacuates the fluid, it can be made large or small, retained for a longer or shorter period, as the case may require, so as to bring on the precise degree of inflammation that may be necessary. But I tried it twice the last year and failed. The case was a fair one; the patient a healthy boy of nine years old. I had punctured the tumor several times before. I introduced a small cord consisting of four threads; he complained but little at the time; the water oozed out, till it was all discharged, and the testicle was so much swollen at the end of four days as to fill entirely the tunica vaginalis. The cord was then removed, as he complained of the soreness; the swelling subsided, but in three weeks effusion took place again.

After waiting more than a month, I repeated the operation, using a cord double the size of the other, and retaining it there twice as long. It produced similar effects to the other, and at the expiration of two months after its removal, the fluid was again effused. This shows that the common opinion, that the disease will return in a month after the operation, if at all, is not correct.

From these experiments I shall not be inclined to try the seton again, as I cannot do it under more favorable circumstances.

The operation by *incision* is usually regarded as a very severe one. I have not found it so, though I have done it very frequently. It to be sure requires the patient to be confined to his bed usually three weeks; it is attended with a considerable degree of soreness and some pain; but, on the other hand, I believe it to be perfectly safe and always successful. It is unnecessary to describe the mode of doing it, as it must be familiar to every one who is at all acquainted with surgical practice.

This operation is certainly to be preferred to the others in all cases where there is any doubt as to the nature of the disease, for the incision

settles that question ; and in those where the other operation has been tried and failed.

Within a few years a new method for the cure of hydrocele has been introduced, and, if we might trust the published accounts, it has been attended with great success. I allude to the mode recommended by Mr. Lewis and Mr. Travers, of Great Britain. It consists in puncturing the tumor in one or more places with a small needle. A drop of fluid usually escapes at each puncture, and when the operation succeeds, the part from half an inch to an inch in diameter around the punctures becomes œdematous, the whole of the fluid, in forty-eight hours, is absorbed, and effusion does not again take place. This is the account given of it by its advocates, but it does not accord with my experience. I have tried it in seven cases, and repeated it several times in some of them. I have followed as exactly as I could the directions laid down for its performance ; I have used various kinds of needles, and I have not succeeded in a single case. Were it not that others with whom I had conversed had been equally unsuccessful, and that I had not met with an individual who had succeeded, I should have attributed it to my own want of skill.

In one of my patients the œdema formed around the puncture and the fluid disappeared in six-and-thirty hours, but was effused again in three weeks. This was the only case in which there was a prospect of a cure.

I shall not abandon it without further trials, for if it would answer as a substitute for the operation now in use, it would be a great improvement in surgical practice.

Ligature of the Femoral Artery.—This operation was performed in consequence of secondary hemorrhage after amputation below the knee. The patient was very feeble, having suffered from the affection of his limb eighteen years; this latterly had assumed a fungoid appearance, and had occasionally bled. It was found, at the time of the operation, that the posterior tibial artery was softened and diseased to such an extent as to render it difficult to secure it. This was at length accomplished, and the ligature remained on twelve days. It then came off spontaneously, and in twenty-four hours after an arterial hemorrhage took place. This was arrested by the tourniquet ; a second occurred on the following day, the compression having been removed from the artery, and a slight one again in the night. The whole amount of blood lost was inconsiderable, but he was already so much reduced that the loss of any was an injury. It was therefore determined to tie the femoral artery, and this was done thirty-six hours after the first hemorrhage. He lost no blood, and he suffered but little pain in the operation. The wound and stump both healed kindly, and in a few weeks he was discharged, perfectly well, from the hospital.

It would probably be thought best in any similar case to tie the femoral artery instead of searching for the bleeding vessel in the stump. Be that as it may, it was clearly the only course that could have been safely adopted in this instance. The patient could not, probably, have borne the suffering and loss of blood to which the other method would have subjected him, and if the artery could have been found and tied, it is not likely that it would have answered the purpose, as the vessel at that part was in a diseased state.

Prolapsus Ani.—When this complaint is in an aggravated form, it is well known that an operation is often performed for its relief. This consists in removing a part of the prolapsed portion, and when cicatrization takes place, the contraction is such that the difficulty is in a great measure obviated. This operation was formerly done either with a knife or scissors, and I should have continued to have used one or the other of these instruments, if I had been guided by my own experience alone. In no case has the use of them in my practice been followed by alarming hemorrhage, and only in one instance by a serious one.

But with others the result has sometimes been different. There are accounts of severe and even fatal hemorrhage after this operation with the knife, and a prudent surgeon, therefore, would hardly feel justified in exposing his patient to so much hazard, if any other mode could be devised.

I am satisfied, from several trials, that the operation by the ligature is perfectly safe, equally efficacious, and hardly, if at all, more painful than the old method. The operation can be readily done in the following way. An enema of warm water should be first administered, and when this comes away the prolapsed portion can usually be thrown exterior to the sphincter. It can then be seized with a double hook, which should be held by an assistant. A needle, armed with a double ligature, should then be passed under the base of the prolapsed portion, the needle cut out, and one string tied firmly in one direction, and the other in the opposite. The part should then be carefully returned within the sphincter, and the ligatures allowed to hang out at the anus. If the pain be severe, an anodyne enema, or an opiate by the mouth, or both, should be administered. The patient should keep in a horizontal position, and live on a mild, liquid diet for few days, and take a gentle laxative on the second day after the operation. The ligatures usually separate in from five to ten days; I have rarely known them to come away sooner than this, and in some cases I have seen them retained much longer.

This operation is the same as the one recommended by the late Dr. Bushe, though I had practised it some time before the publication of his work. It will be found, also, a very safe and effectual mode of removing hemorrhoidal tumors, there being the same objection to the use of the knife in this case as in that of prolapsus. When the tumors are

exterior to the sphincter, they may be freely cut off; the hemorrhage is never troublesome.

It is no unusual thing to find, after the operation for prolapsus and internal hemorrhoids, that the patient is troubled with stricture of the rectum. This is of course produced by the cicatrization, and is in most cases readily overcome by the use of a rectum bougie. If the patient should continue to use this occasionally for a length of time after the operation for either complaint, there will be much less danger of a return of the difficulty.

Another important means as a preventive, is the daily use of an enema of cold water. This should be thrown up in the morning, just before the usual time for a dejection, and it will in most instances produce the desired discharge from the bowels without pain. From a gill to half a pint of water is sufficient.

Nævi can also be removed by ligature, used in the same way as in the two other cases. When the nævus is very large and firm, I have sometimes, in addition to tying it in this way, passed a long slender needle under it, introducing it in the sound skin at some distance from the tumor, and bringing it out in a similar way on the opposite side. I have then passed another needle at right angles to this, and around the two I have carried a strong thread several times, drawing it tightly as possible, and then tying it. I have never known this to fail.

This operation, even on young children, produces much less irritation than could have been supposed. I have tried it upon them at all ages, and I have never witnessed any alarming or severe symptoms. The pain, whatever it may be at the moment, soon passes off, and the child generally becomes quiet in a few hours.

Removal of Cancer of the Tongue.—The operations for the removal of cancer of the tongue, that have come under my observation, have rarely been successful. The disease usually soon reappears in the neighboring parts, apparently more malignant in its character, and certainly more rapid in its progress, than before the operation. I believe that I can truly say that, with perhaps one exception, the disease has in every instance returned. In all the cases, the diseased part was entirely removed, and in some of them the actual cautery was applied to the remains of the tongue, in part for the purpose of arresting the hemorrhage, and partly to eradicate completely the disease.

Sir Everard Home thought that much was gained by using the ligature instead of the knife. In the only instance in which I tried this, it was wholly unsuccessful. The case was a fair one; the disease was limited; the whole of it was removed, and the patient in other respects healthy. Yet the wound had hardly healed before the disease reappeared, and went on with great rapidity till it destroyed the patient.

It seems somewhat singular that cancer of the tongue should be so unmanageable, when the operation for cancer of the lip succeeds more often than that for the same disease in any other part of the body. It is true that some have supposed that the eroding ulcer, with everted and hardened edges, that is so often met with on the lip, has not the malignancy of true cancer. But this opinion does not seem to be well founded, for it is certain that if this ulcer be left to itself, or improperly managed, it will terminate in death.

The operation for cancer of the tongue, to which I referred above as probably successful, was performed at the hospital in the month of January last. The patient was a healthy man of good habits, thirty-eight years of age. The disease had existed five months. It appeared, as it usually does, in the form of a small, hard tubercle. It came on the tip of the tongue ; it is more often met with on the side. It increased gradually, and gave him no pain till about two months before the operation. At the time of his admission it was quite painful and very troublesome from its size and situation, being somewhat larger than a nutmeg. It had perceptibly increased during the week before his admission.

As the use of tobacco is supposed by many to have an influence in the production of cancer of the tongue, I made the inquiry as to this patient's habit in this respect, and learned that he had never chewed or smoked tobacco, and had used snuff very sparingly.

The operation was performed in the following manner, the day after he entered the hospital. The tongue being protruded, it was seized with a long-bladed polypus forceps transversely behind the tumor, and firmly compressed. The tumor was then taken between the thumb and fore-finger, a sharp-pointed scalpel was passed behind the tumor through the healthy part of the tongue, and about one-third of the organ was cut off. A ligature was applied to each of the lingual arteries. There was scarcely any blood lost at the time, owing to the compression made by the forceps, and no hemorrhage took place afterwards. The wound healed entirely in three weeks, and in a month the patient was discharged well. The disease, I presume, has not returned, for if it had I have no doubt that I should have heard from him, as he lives only a few miles from the city, and I requested him, when he left the hospital, to inform me if he had any further trouble.

Trephining.—An account of this case has already been published. The patient, a clergyman, had suffered twelve years from epilepsy, arising from a diseased state of the cranium. The carious portion of bone was removed, with complete relief. Six months have elapsed since the operation, and I have reason to believe that during the whole of the period he has had entire exemption from his epileptic paroxysms.

There are several other cases upon which I should have been glad to have offered some remarks, had I not already exceeded the limits which I proposed to myself. I therefore close with the expression of a hope that those who have the charge of similar institutions, in our country especially, would, from time to time, give reports of all the cases that come under their care. In this way our hospitals will be rendered still more useful to the public.

Boston, October 1st, 1838.